

REMARKS

Claims 1-6, 8-19 and 21-23 are pending in this application.

The Applicant thanks the Examiner for conducting the telephone interview of July 8, 2008. The remarks below incorporate the substance of the interview.

Claims Rejections – 35 USC § 112

At paragraph 3 of the Office Action, the Examiner rejects claims 11-14, 19 and 21-23 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Applicant traverses this rejection. The Examiner asserts that the originally filed disclosure does not provide for “construct said seed file to maximize similarities with said target file,” and that the originally filed disclosure makes no mention of maximization of similarities.

The Abstract of the present application states, “[a]lternatively, the old seed file blocks may be reconstructed in a manner such that they match the target file blocks.” Reconstruction is a form of construction, so the Applicant submits that “construct said seed file” is supported by the specification. Further, “in a manner such that [the old seed file blocks] match the target file blocks” is support for maximizing similarities with the target file, since matching the target file blocks is clearly maximizing similarities.

Support may be found elsewhere in the application, for example at paragraph [0009]: “If differences between the seed file and the target file are identified, the server transmits information to the client for revising the seed file blocks that are different from the target file blocks in a manner such that the seed file blocks match the target file blocks.”

Accordingly, the Applicant respectfully submits that this rejection is improper and should be withdrawn.

At paragraph 4 of the Office Action, the Examiner rejects claims 11-14, 19 and 21-23 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which applicant regards as the invention. The Applicant traverses this rejection. The Examiner asserts that the phrase, “maximize similarities” is unclear in both meaning and in implementation. The Applicant submits that the plain meaning of “maximize similarities” is

clear. As set forth above, one described embodiment constructs a seed file to maximize similarities with the target file by reconstructing or revising the seed file blocks to match the target file blocks. Accordingly, the Applicant respectfully submits that this rejection is improper and should be withdrawn.

If the Examiner disagrees with the Applicant's arguments above, the Applicant requests that the Examiner contact the undersigned to arrange a telephone interview.

Claims Rejections – 35 USC § 102

At paragraph 5 of the Office Action, the Examiner rejects claims 1-3, 5, 7-9, 11-13, 15-16, 18-20 and 21-23 under 35 U.S.C. § 102(b) as being anticipated by "Efficient Algorithms for Sorting and Synchronization" by Andrew Tridgell. The Applicant traverses these rejections.

In his Response to Arguments starting at the bottom of page 10 of the Office Action, the Examiner states that, "First, whether or not certain calculations are or are not a bottleneck does not indicate whether Tridgell would use a cache." The Applicant respectfully disagrees. Tridgell is silent on storing target file checking data in a cache, as is required by the independent claims. The text at page 54 of Tridgell previously cited by the Applicant provides evidence of why Tridgell is silent on such caching – as described below, Tridgell does not address a multiple client scenario which makes such caching particularly beneficial. As the Applicant's specifications states, "... the server CPU may become overloaded when any more than just a few clients attempt to run the rsync algorithm." (paragraph [0007]). In light of the fact that Tridgell is silent on storing target file checking data in a cache, and Tridgell only describes scenarios for which caching is unnecessary, the Applicant respectfully submits that it is improper to attribute such caching to Tridgell.

The Tridgell reference, in particular chapters 3-5, describes the rsync algorithm using examples in which one computer updates files on a second computer. See, for example, chapter 3.2 beginning on page 50 ("Say you have two computers A and B . . ."). In the worst case analysis (chapter 3.3.1, beginning on page 59; chapter 3.4.1, beginning on page 60), Tridgell only contemplates a single point-to-point update ("The information sent from A to B will be a single block of literal bytes and will be the same size . . . as what would be sent by traditional file transmission algorithms." Page 60).

In the “Enhancements and optimizations” chapter (chapter 4), Tridgell describes point to point communication (e.g., “To improve upon stream compression of the literal data we need to take advantage of some shared knowledge between A and B.” page 75). At page 80, Tridgell describes update of many files rather than a single file, but still deals with point to point communication (e.g., “The sender (running on A) matches the signatures from B against the new files . . .”).

Because Tridgell only describes the rsync algorithm in terms of point-to-point communication, Tridgell is not concerned with the consequences of updating a significant number clients. On the other hand, the present application takes Tridgell a step further, and addresses the impact of such high-volume updating. The Tridgell text previously cited (at page 54) states that no bottleneck exists, but as set forth above, this is with respect to a simple exemplary point-to-point scenario. As the present application describes at paragraph [0007], “. . . the server CPU may become overloaded when any more than just a few clients attempt to run the rsync algorithm.” Thus, the utility of storing target file checking data in a cache, as is required by the independent claims, is the ability to handle more than just a few clients.

Tridgell does not teach or suggest the limitation, “storing at least a portion of said target file checking data in a cache, wherein the cache is part of a non-volatile storage device.” Tridgell is silent on caching target file checking data for good reason -- the evidence set forth above shows that Tridgell deals only with scenarios for which such caching is not needed. The rejected claims are thus directed to subject matter that is beyond the scope of Tridgell. It is improper to read such caching into Tridgell, in particular when the overall reference provides no reason for caching the target file checking data. For at least these reasons, those claims should be allowable.

The Examiner also addresses the Applicant’s arguments concerning caching in Tridgell at page 93, section 5.4. The Examiner cites text that states, “contained the fast and strong signatures . . . in the local cache.” However, the cited text reads in its entirety as follows:

“The way this would work is that a client requesting a page would send an augmented HTTP GET request to the server which contained the fast and strong signatures for the page currently held in local cache. (emphasis added).”

This text is describing page cache employed by, for example, a web browser, and not cache for storing target file checking data as recited in the claims. The fast and strong signatures referred to

in this text are related to the page held in local cache, but the signatures themselves are not held in cache. In two paragraphs previous to the cited paragraph, Tridgell confirms this by stating, “[a]lthough cache systems such as those employed by popular web browsers or implemented in proxy caching web servers are very effective at reducing this traffic for static documents, they do not help at all for dynamic documents.” (emphasis added). Nothing in this cited text teaches or suggests storing target file checking data in a cache.

The Examiner refers to tar files as teaching the header and payload aspect of claim 1. Applicant submits that while tar files have header blocks separating file portions of the overall tar file, Tridgell does not teach or suggest separating the tar file into header and payload, nor does Tridgell teach or suggest generating file checking data for the payload portion of the tar file to which Tridgell refers. The claim, read as a whole, requires separating a target file into a header and payload, and generating target file checking data for the blocks of payload. Tridgell does not teach this combination.

For at least the reasons above, independent claims 1, 11, 15, 19 and 23 should be allowable. Since claims 2-6, 8 and 9 depend from allowable claim 1, claims 12- 14 depend from allowable claim 11, claims 16-18 depend from allowable claim 15, and claims 21-22 depend from allowable claim 19, those claims should also be allowable.

Claims Rejections – 35 USC § 103

At paragraph 8 of the Office Action, the Examiner rejects claims 4, 6 and 17 under 35 U.S.C. § 103(a) as being unpatentable over “Efficient Algorithms for Sorting and Synchronization” by Andrew Tridgell. As set forth above, independent claims 1 and 15 should be allowable. Since claims 4 and 6 depend from allowable claim 1, and claim 17 depends from allowable claim 15, those claims should also be allowable.

At paragraph 9 of the Office Action, the Examiner rejects claims 10 and 14 under 35 U.S.C. § 103(a) as being unpatentable over “Efficient Algorithms for Sorting and Synchronization” by Andrew Tridgell in view of Applicant Admitted Prior Art. As set forth above, independent claim 1

should be allowable. Since claims 10 depends from allowable claim 1, and claim 14 depends from allowable claim 11, those claims should also be allowable.

In view of the above amendment, Applicant submits that the pending application is in condition for allowance, and such action is respectfully solicited.

Filed herewith is a Request and fee for a One-Month Extension of Time, which extends the statutory period for response to expire on July 31, 2008. Accordingly, Applicant respectfully submits that this response is being timely filed. Applicant believes no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0219, under Order No. 0113715.00142US1 from which the undersigned is authorized to draw.

Respectfully submitted,

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